

IN THE SUBSTITUTE SPECIFICATION:

Please cancel paragraphs 008, 011, 012, 021, 024, 025, 026, 030, 035, and 036 of the Substitute Specification, as filed. Please replace those cancelled paragraphs with replacement paragraphs, also 008, 011, 012, 021, 024, 025, 026, 030, 035, and 036, as follows:

[008] In accordance with the present invention, this object is attained by the provision of a printing press, with at least one printing unit, on which a web can be printed in variable section lengths by offset printing. At least one folding apparatus, whose section length can be changed, is assigned to the printing unit. The printing unit includes a frame on which interchangeable modules can be fastened. At least one forme cylinder and/or at least one transfer cylinder of different diameter is sealed in different modules. At least one independent drive motor for the folding apparatus, as a positionally-regulated electric motor, is provided.

[011] Shown are in:

Fig. 1, a schematic top plan view of a structure of a printing installation, in

Fig. 2, a first section of the printing installation in accordance with Fig. 1, in a side elevation view, in

Fig. 3, a second section of the printing installation in accordance with Fig. 1, in a side elevation view, in

Fig. 4, a third section of the printing installation in accordance with Fig. 1, in a side elevation view, in

Fig. 5, an alternative embodiment of the third section of the printing installation in accordance with Fig. 1, in

Fig. 6, a schematic side elevation view of a printing unit in a modular construction for use in a printing installation in accordance with the present invention, in

Fig. 7, a transport system for use in conveying modules of printing units in accordance with Fig. 6, in

Fig. 8, a side elevation view of a roll changer for use in a printing installation in accordance with the present invention, in

Fig. 9, a side elevation view of a roll changer with a downstream-[]connected conditioning device for use in a printing installation in accordance with the present invention, in

Fig. 10, an end view of an asymmetrical superstructure system for use in a printing installation in accordance with Fig. 1, in

Fig. 11, an end view of a symmetrical superstructure system for use in a printing installation in accordance with Fig. 1, in

Fig. 12, an end view of a compact superstructure system for use in a printing installation in accordance with Fig. 1, in

Fig. 13, an end view of an asymmetrical combination superstructure system for use in a printing installation in accordance with Fig. 1, in

Fig. 14, an end view of a superstructure of a former for use in a printing installation in accordance with Fig. 1, in

Fig. 15, schematic depictions of varied product configurations which can be produced in printing installations in accordance with the present invention, in

Fig. 16, a chart detailing different folding apparatus types which can be employed in printing installations in accordance with the present invention, in

Fig. 17, a side elevation view of a first embodiment of a folding apparatus for use in printing installations in accordance with the present invention, in

Fig. 18, a side elevation view of a second preferred embodiment of a folding apparatus for use in printing installations in accordance with the present invention, in

Fig. 19, a side elevation view of a first embodiment of a cutting cylinder pair of a folding apparatus, in

Fig. 20, a second embodiment of a cutting cylinder pair for a folding apparatus, in side elevation, in

Fig. 21, a schematic side elevation view of a variable cover folding apparatus with an envelope supply device, in

Fig. 22, an overview of varied product configurations which can be produced in printing installations in accordance with the present invention, and in

Fig. 23, a representation of folding options which are possible in printing installations in accordance with the present invention.

[012] A printing installation 01 is schematically represented, in a top plan view, in Fig. 1. The printing installation 01 is constructed of three sections 02, 03 and 04, through which sections of a web 06 of material to be imprinted, as seen in Fig. 2, successively passes. The web 06 of material to be imprinted can be printed and can then be further processed in a wet offset printing process in the printing installation 01. Alternatively to this, other forms of printing installations are also within the scope of the

present invention, when suitable printing units are used, in which the web 06 to be imprinted is printed in, for example, a waterless printing process.

[021] A printing unit 09a, which is embodied in a modular construction, is represented in Fig. 6. The printing unit 09a has a frame 23, in which frame 23 different interchangeable modules 24 can be selectively fastened. Forme cylinders 26 and transfer cylinders 27, of different diameters, are provided in the respective different interchangeable modules 24. For example, several different diameters of the forme cylinder 26 or transfer cylinders 27 of a second interchangeable module 24 are shown in dashed lines in Fig. 6. By exchanging the interchangeable modules 24 at the printing units 09a, it is possible that the web 06 to be imprinted will be printed, with different respective section lengths, in the printing installation 01. Exchanging the forme cylinders 26 and the transfer cylinders 27, as a function of the section length which is necessary for performing the respective required printing job, takes place by exchanging the interchangeable modules 24. Modules 24 should preferably be provided in which the forme cylinders 26 and the transfer cylinders 27 each have a cylinder circumference of between 1100 and 1500 mm, and in particular of 1156 mm, 1260 mm, 1320 mm and/or 1410 mm, for example with six DIN A4 pages, or modules 24 with 1680 mm, 1760 mm, 1880 mm, for example, with six DIN A4 pages.

[024] The~~An~~ inking system rollers~~ink~~ application roller 60 and the~~a~~ damping system rollers~~damping~~ fluid application roller 62, for at least one pair of the forme cylinders and transfer cylinders, are seated in the module 24 by the use of pneumatic roller locks, which are not specifically represented, and preferably by the use of at least two such

roller locks, which are provided in accordance with the disclosure of WO 02/074542 and having independently operating actuators, and which can be simply set in this way. The roller locks are preferably arranged, at least in part, on levers which can be brought into and out of contact, or which can be roughly adjusted. A fittingfixing system, which is not specifically depicted, is used in the frame 23 of the printing unit 09a, for use in fixing the, interchangeable module 24 in place in the frame 23 in order to make positionally accurate seating of the interchangeable module 24, in the frame 23, easily possible.

There is a quick-release coupling system for use in supplying the interchangeable module 24 with air, with water and with electricity, by the use of which, the module 24 can be connected to the air supply, to the water supply and to the electrical supply of the frame 23. The web 06 of material to be imprinted, as schematically depicted in Fig. 6, is conveyed through the printing gap which is formed by the two oppositely located transfer cylinders 07, and is thus printed on both sides by offset printing.

[025] The inking systems 28, or the dampening systems 29, for use in supplying the two forme cylinders 26 with dampening agent and with ink, are each seated in the frame 23. Driving of the various inking system rollers and the various dampening system rollers takes place by the use of a drive mechanism 64; 66, respectively, which is present in the frame 23. Furthermore, a separate drive mechanism, for use in driving the forme cylinders 26, or the transfer cylinders 27, is present in the module 24 and can be disconnected from the frame 23, together with the module 24.

[026] It is also possible to provide each cylinder with its own drive motor, or each cylinder pair, consisting of a forme cylinder and rubber blanket cylinder, with its own

drive motor. The provision of such a drive motor 68; 70 for each cylinder pair 26; 27 is depicted schematically in Fig. 6.

[030] Fig. 10 is a schematic depiction of an asymmetrical superstructure system 34. Fig. 11 is a schematic depiction of a symmetrical superstructure system 36. Fig. 12 is a schematic depiction of a compact combined superstructure system 37. These superstructure systems can be additionally combined with printing installations in accordance with the present invention when processing large web widths.

[035] A further embodiment 21a of a variable folding apparatus, with a system 7.7; i.e. a system with seven gripper systems, seven folding blades and seven folding jaws is schematically represented in Fig. 17. The type of such a folding apparatus can also be taken from the disclosure of EP 0 257 390 B1, for example. At the inlet of the web 06 of material to be printed, the folding apparatus 21a has a traction roller pair 41, by the use of which, the web 06 of material to be imprinted, is electronically charged. The web 06 to be imprinted is cut into individual sheets, in accordance with the predetermined section length, in a cutting roller pair 42, which is located downstream, in the direction of web-travel, of the traction roller pair 41. Acceleration belts 43 are arranged downstream of the cutting roller pair 42, and in which, the individual sheets can be accelerated. The sheets subsequently reach a cylinder 44, and in particular reach a collection cylinder 44 and/or folding blade cylinder 44, and from there are passed on to a folding jaw cylinder 46, which can be provided with springs. The

cylinder 44 has two multi-armed instrument supports, which can be displaced with respect to each other. When cutting the printed sheets, to then be folded sheets, it is possible to change the section length of the sheets by adjusting the two instrument supports. Electric motors 47, and in particular positionally regulated electric servo motors 47, are provided for driving the various functional elements of the folding apparatus 21a, which electric motors 47 can be controlled independently of other drive mechanisms for the printing press. The collection cylinder part 44 and the folding jaw or 46-delivery device 46 of the folding apparatus 21a can be driven independently of each other. Preferably, the collection cylinder 44 has folding blade systems and holding systems, such as, for example, gripper systems or spur needle systems, which are arranged on instrument supports. In this case at least 3, but preferably 5 or 7, such gripper systems or spur needle systems are respectively provided here.

[036] A distance between the holding system and the folding blades of the folding blade cylinder 44 can be set as a function of a diameter of a forme cylinder 26 and/or of a transfer cylinder 27 via a control device by such as, for example, by a remote control, as depicted schematically at 80 in Fig. 17.